P-3 Orion 03/23/17

Aircraft:
P-3 Orion (See full schedule)
Flight Number:
Science Flight #8 - Zig Zag West Line
Payload Configuration:
OIB Arctic
Nav Data Collected:
No
Total Flight Time:
7.9 hours
Submitted by:
Janet Letchworth on 03/24/17
Flight Segments:

From:	BGTL	**To:**	BGTL
Start:	03/23/17 10:52 Z	**Finish:**	03/23/17 18:43 Z
Flight Time:	7.9 hours		
Log Number:	17P006	**PI:**	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Zig Zag West Flight Line, including coordinated flight with the NASA G3 aircraft on the CryoSat 2 data line.		

Flight Hour Summary:

	17P006
Flight Hours Approved in SOFRS	333.6
Total Used	332
Total Remaining	1.6

17P006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
02/24/17	Airworthiness Test Flight	Check	1	1	332.6
02/26/17	Project Test Flight #1	Check	4.9	5.9	327.7
02/27/17	Project Test Flight #2	Check	3	8.9	324.7
03/07/17	Transit Flight	Transit	8.2	17.1	316.5
03/09/17	Science Flight #1 - North Pole Transect	Science	8	25.1	308.5
03/10/17	Science Flight #2 - Laxon Line	Science	8.5	33.6	300
03/11/17 - 03/12/17	Science Flight #3 - Chukchi West Line	Science	8	41.6	292
03/12/17 - 03/13/17	Science Flight #4 - North Beaufort Loop Line	Science	8.1	49.7	283.9
03/14/17 - 03/15/17	Science Flight #5 - East Beaufort Loop Line	Science	8	57.7	275.9
03/20/17	Science Flight #6 - Sea Ice South Basin Transect (to Thule)	Science	8.1	65.8	267.8
03/22/17	Science Flight #7 - North Flux 02	Science	7.9	73.7	259.9
03/23/17	Science Flight #8 - Zig Zag West Line	Science	7.9	81.6	252
03/24/17	Science Flight #9 - CryoVEx Line	Science	5.8	87.4	246.2
03/27/17	Science Flight #10 - Northwest Coastal A Line	Science	7.4	94.8	238.8
03/28/17	Science Flight #11 - North Central Cap 01 Line	Science	7.6	102.4	231.2
03/29/17	Science Flight #12 - Ellesemere Island 01 Line	Science	7.6	110	223.6

03/30/17	Science Flight #13 - Ellesemere South Line	Science	7.9	117.9	215.7
03/31/17	Science Flight #14- Alexander-Petermann Line	Science	6.5	124.4	209.2
04/03/17	Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit	Science	7.4	131.8	201.8
04/05/17	Science Flight #16 - Svalbard North Line (High Priority)	Science	7	138.8	194.8
04/06/17	Science Flight #17- Svalbard South Mission (High Priority)	Science	8.5	147.3	186.3
04/07/17	Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL	Science	8.3	155.6	178
04/10/17	Science Flight #19- North Central Gap 3	Science	7.8	163.4	170.2
04/11/17	Science Flight #20- CryoVex 2 (High Priority)	Science	7.8	171.2	162.4
04/12/17	Science Flight #21-Northwest Coastal C	Science	7.2	178.4	155.2
04/13/17	Science Flight #22-North Glaciers 02 Prime (High Priority)	Science	8.2	186.6	147
04/14/17	Science Flight #23-IceSat-2 North/CryoSat-2 SARIn	Science	7	193.6	140
04/17/17	Science Flight #24-Humboldt 01(High Priority)	Science	7.8	201.4	132.2
04/19/17	Science Flight #25-Sea Ice - South Canada Basin (MediumPriority)	Science	7.8	209.2	124.4
04/20/17	Transit Flight to Kangerlussuaq	Transit	3	212.2	121.4
04/21/17	Science Flight #26-Southeast Coastal	Science	8	220.2	113.4
04/22/17	Science Flight #27-Helheim-Kangerd	Science	7.8	228	105.6
04/24/17	Science Flight #28-Geikie 01 (High Priority)	Science	8	236	97.6
04/26/17	Science Flight #29-Devon-Bylot (Medium Priority)	Science	7.9	243.9	89.7
04/28/17	Science Flight #30-Penny 01 (Medium Priority)	Science	6	249.9	83.7
04/29/17	Science Flight #31-Thomas - Jakobshavn 01	Science	8.4	258.3	75.3
05/01/17	Science Flight #32-Thomas - Jakobshavn-Eqip-Store	Science	8.4	266.7	66.9
05/02/17	Science Flight #33-Thomas - ICESat-2 Central	Science	7.9	274.6	59
05/03/17	Science Flight #34-Thomas - Southwest Coastal A	Science	8.3	282.9	50.7
05/05/17	Science Flight #35-Helheim-Kangerdlugssuaq Gap B (High Priority)	Science	8.2	291.1	42.5
05/06/17	Science Flight #36-Helheim-K-EGIG-Summit	Science	8	299.1	34.5
05/08/17	Science Flight #37-Southeast Glaciers 01 (High Priority)	Science	8	307.1	26.5
05/10/17	Science Flight #38-Umanaq B (High Priority)	Science	8	315.1	18.5
05/11/17	Science Flight #39-ICESat-2 South (High Priority)	Science	8.1	323.2	10.4
05/12/17	Science Flight #40-Nuuk Fjords	Science	1.8	325	8.6
05/13/17	Transit Flight to Dover DE (to clear customs)	Transit	6.4	331.4	2.2

05/13/17	Transit Flight to Wallops Flight Facility	Transit	0.6	332	1.6

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB - P-3 Orion 03/23/17 Science Report

Mission:
OIB
Mission Summary:

IceBridge completed the Zig Zag West mission which is a near-repeat of an OIB flight first flown in 2010 intended to sample the thick multi-year ice near the Ellesmere coast as well as the gradient to thinner ice closer to the pole. The mission was modified to pass under a CryoSat-2 orbit in coordination with up to three other aircraft: 1) The NASA G-III carrying the GLISTIN instrument. 2) The AWI Polar 5 with the PanArcMip project. 3) A Norlandair Twin Otter as part of ESA?s CryoVEx project. IceBridge launched first in order to comply with the closing time of the Thule airport. The flight was flown at an altitude of 2000 feet throughout for flight safety reasons, however this restricted the bandwidth of the snow radar to 2-8 GHz due to the current set-up on the P-3. The NASA G-III was spotted on the Airborne Science Flight tracker and first passed us overhead at 1603Z, making several passes over us throughout the CryoSat-2 line due to their higher airspeed. However, upon landing we learned that the Polar 5 and Twin Otter were unable to launch due to poor weather at Alert. Lastly, we collected data over frozen lakes in coordination with a Naval Academy survey of snow and ice thickness there.

The weather forecast showed mostly clear skies over the target area with an area of clouds at the northern end of the line. This held true throughout our flight, though the clouds along the northern section were a thin haze layer that we were able to range through without incident. All instruments performed well making for a successful flight with no loss of data.

Data volumes
ATM: T5: 23 Gb T6: 108 Gb
FLIR: 13 Gb
Cambot: 33 Gb
KT19: 10 Mb
DMS: 81 Gb
Snow/Ku radar: 980 Gb (2-8 GHz operation)
MCoRDS: Did not operate
Accumulation radar: Did not operate
Gravity: 3 Gb
data on: 1223
data off: 1710

File:
zzwest_cryovex.pdf
Submitted by:
Nathan T. Kurtz on 03/23/17

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